LISTING OF SPECIFICATION AMENDMENTS

Please amend paragraphs 7, 9, 10, 33, 39, 57 and 59 of the specification as follows:

[0007] FIG. 2 schematically illustrates a cross-sectional view of ~~anoher~~ another prior art independent screwed wellhead apparatus of a known configuration that is commercially available from Wellhead Inc. of Bakersfield, California, USA. In FIG. 2, neither the production casing nor the adapter for the well stimulation tool is shown. Accordingly, the top 38 and bottom 32 box threads can be seen. The casing mandrel 20' has a lower profile, and therefore has a shorter axial passage 36'. The remainder of the casing mandrel 20' is substantially the same as corresponding parts of the casing mandrel 20 illustrated in FIG. 1, except that a top surface of the lockdown nut 26 is horizontally aligned with a top surface of the casing mandrel 20' shown in FIG. 2.

[0009] The flanged casing pin adapter 42, includes a body that forms an axial passage 46 with a cylindrical section 46a and an upward widening truncated conical section 46b. The function of the flanged casing pin adapter 42 is to permit connection of well stimulation tools and other equipment (e.g. a high pressure valve or a blowout ~~preventor~~ preventer (BOP)) to the casing mandrel 20'. Accordingly the flanged casing pin adapter 42 has a flanged top surface 48 that enables secure connection of any flanged component. An annular groove 50 accommodates a flange gasket for preventing fluid leakage across the interface between the flanged casing pin adapter 42 and the other component.

[0010] In a typical well stimulation procedure, a casing saver (not shown), such as a casing packer as described in United States Patent No. 4,993,488, which issued to Macleod on February 19, ~~19991~~1991, is inserted through a BOP and into the production casing 30. The casing saver is sealed off against the production casing 30 and high pressure fluids are injected through the casing saver into a formation of the well. While the casing saver protects the

exposed top end of the production casing 30 from "washout", it does not relieve the top box thread 38 or the pin thread 44 from mechanical stress induced by the elevated fluid pressures generated by the injection of high pressure fracturing fluid into the well. In a typical fracturing operation, high pressure fluids are pumped into the well at around 9500 lbs per square inch (PSI). If "energized fluids" or high pumping rates at more than 50 barrels per minute are used, peak pressures can exceed 9500 PSI. In general, the threads retaining the flanged casing pin adaptor 42 in the casing mandrel 20 are engineered to withstand 7000 PSI, or less. Consequently, high pressure stimulation using standard equipment can expose the flanged casing pin adaptor 42 to an upward pressure that exceeds the strength of the bottom pin thread 44. If either the top box thread 38 or the pin thread 44 fails, the flanged casing pin adaptor 42 and any connected equipment may be ejected from the well and hydrocarbons, and stimulation fluids may be released into the atmosphere. This is potentially dangerous and an undesirable situation.

[0033] The invention provides a lock down flange for providing a flanged connection to a casing mandrel of an independently screwed wellhead. The lock down flange may be a multi-lock adapter for connecting a well stimulation tool, a blowout ~~preventor~~preventer, or a high pressure valve to a standard casing mandrel of a prior art independent screwed wellhead that only provides box threads for coupling the stimulation tool to the casing mandrel. The multi-lock adapter ensures improved efficiency and safety while completing and/or re-completing wells. Efficiency is improved by enabling full-bore access to a casing of the well, and eliminating reliance on casing savers. Safety is improved by ensuring that stress on connection points to the wellhead during well stimulation procedures does not exceed engineered stress tolerances.

[0039] FIG. 5 is a schematic cross-sectional view of a multi-lock adapter 60' in accordance with the invention that is the same as the embodiment illustrated in FIG. 4 except that a location of the top lockdown nut 74' that secures the flanged adapter pin 62 to the

lockdown flange 80 is changed. The outer wall of the elongated hollow mandrel 66' includes a section 65 of reduced diameter forming a supporting annular shoulder 74' for rotatably retaining the top lockdown nut 76'. ~~mandrel 66'.~~ In this embodiment, another example of a gasket for providing the fluid seal between the lockdown flange 80 and the top of the casing mandrel 20' is also shown. A pancake gasket 97 is captively held in annular grooves in the bottom surface 96' and a bottom of the elongated hollow mandrel 66'. A description of the remainder of the multi-lock adapter 60' will not be repeated here, since the other components are the same as described above with reference to FIG. 4.

[0057] As will be appreciated by those skilled in the art, the multi-lock adapters of the embodiments described above provide full-bore access to the production casing 30. Consequently, plugs, packers, perforating guns, fishing tools, and any other downhole tool or appliance can be run through these multi-lock adapters. In a multi-zone well this permits a rapid transition from the pumping of high pressure well stimulation fluids and other downhole processes, such as the setting of a wireline plug or packer to isolate a production zone; lubricating in a logging tool to locate a production zone; lubricating in a perforating gun to perforate a casing that runs through a production zone; or performing any downhole operation that requires full-bore access to the production casing 30 without disconnecting the multi-lock adapter or a blowout ~~preventor~~ preventer mounted thereto. Further speed and economy can be achieved by using an apparatus for perforating and stimulating oil wells as described in co-applicant's United States Patent No. 6,491,098, which issued on December 10, 2002, the specification of which is incorporated herein by reference.

[0059] FIG. 11 schematically illustrates an embodiment of a lockdown flange 220 in accordance with the invention connected to the casing mandrel 20'. The lockdown flange 220 is mounted to a top of the casing mandrel 20'. The lockdown flange 220 includes top flanged end 68 a cylindrical mandrel 222, and a bottom end 224 that includes an annular groove 226 for accommodating a high-pressure fluid seal, such as a flange gasket, well known in the art.

The lockdown flange 220 has an internal diameter that is greater than that of the axial passage through the casing mandrel 20' to accommodate a blowout preventer protector described in co-applicant's United States Patent No. 6,364,024, which issued April 2, 2002, the specification of which is incorporated herein by reference.[[,]] The top flanged end 68 provides a stud pad to which a blowout preventer (not shown) can be mounted. The blowout preventer protector (not shown) may then be mounted to a top of the blowout preventer. A mandrel of the blowout preventer protector is stroked down through the blowout preventer and an annular sealing body on the bottom end of the blowout preventer protector mandrel seals off against an exposed annular portion 228 of a top of the casing mandrel 20', or an inner surface of the mandrel 222. The annular sealing body provides a high pressure seal to ensure that high pressure well stimulation fluids cannot escape through the connection between the lockdown flange 220 and the casing mandrel 20'. The blowout preventer protector provides full-bore access to the well, and permits a tubing string to be suspended in the well during a well stimulation procedure.